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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/364,241	07/29/1999	ROBERT P. PARKER	02103/349001	9138

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EXAMINER	
TRAN, KHANH C	

ART UNIT	PAPER NUMBER
2611	

DATE MAILED: 07/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/364,241	PARKER, ROBERT P.	
	Examiner	Art Unit	
	Khanh Tran	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-9* is/are allowed.

6)☒ Claim(s) *10-14* is/are rejected.

7)☒ Claim(s) *15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05/24/2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The Amendment filed on 04/24/2006 has been entered. Claims 1-15 are pending in this Office action.

Response to Arguments

2. Applicant's arguments filed on 04/24/2006 have been fully considered but they are not persuasive.

In response to Applicant's arguments on pages 10-11 of the Remarks that none of these crystal oscillators (FIG. 1) were local oscillators and Applicant discusses the case when tuning to channel 83 that is between 884-890 MHz, the local oscillator frequency at 931 MHz, 45.7 MHz above the carrier frequency of channel 83, the local oscillator is outside the UHF and both VHF bands. The case when receiving VHF channel 6 the local oscillator frequency is about 129 MHz, which is outside both VHF band and the UHF band. And when tuning high band channel 13, the local oscillator frequency is about 257 MHz, which is outside both VHF bands and the UHF band.

The Examiner's position is that Applicant's arguments are not persuasive. Attached below is the Allocation of Radio Spectrum in the United States in which the VHF frequency band covers from 30 MHz to 328.6 MHz and UHF frequency band covers from 328.6 MHz to 2.3 GHz. As discussed by Applicant above, the local

oscillator frequency about 129 MHz, when receiving VHF channel 6, is within the predetermined range of VHF frequency band; the local oscillator frequency about 257 MHz when tuning high band channel 13 is within the predetermined range of VHF frequency band. The local oscillator frequency at 931 MHz, when tuning to channel 83 that is between 884-890 MHz, is within the predetermined range of UHF frequency band. As recited in the last Office action, the predetermined frequency range according to Alberkrack invention is both VHF and UHF frequency bands and Alberkrack teaches the local oscillators (VCOs) in tuners 10 and 11. The rest of the rejection has been recited again below.

3. The objection of claims 1-3 and 8-9 has been withdrawn after Applicant amended claim to correct all the formalities

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 10-11, 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Alberkrack U.S. Patent 3,883,807 (previously cited).

Regarding claim 10, Alberkrack teaches a phase locked-loop tuning system for a television receiver, the tuning system for tuning VHF and UHF channels. In column 2

lines 50-65, FIG. 1 is a block diagram of a channel selection and tuning control system used to control the local oscillator in the VHF and UHF tuner sections 10 and 11, respectively, of a television receiver. The predetermined frequency range according to Alberkrack invention is both VHF and UHF frequency bands. Figure 1 does not show a signal path for receiving an electromagnetic signal, however, the television receiver inherently receives an electromagnetic signal either in VHF or UHF ranges.

In column 3 lines 40-50, a keyboard switch section 13 is operated to directly *select the desired channel number*, which represents the desired frequency (e.g. either the VHF or UHF channel) of a desired signal within the predetermined frequency range of VHF and UHF bands. In light of the foregoing, the keyboard switch section 13 corresponds to the claimed source representative of the frequency of a desired signal. In column 2 lines 5-35, the output from divide channel number is compared in a phase/frequency comparator 40 with a reference oscillator signal to produce *a control voltage used in a phase-locked loop to control the frequency of operation of the local oscillators 10 or 11*, e.g. VHF tuner or UHF tuner. In column 3 lines 20-30, the *local oscillator frequencies for the tuners range from a low 101 MHz for VHF channel 2 to a high of 931 MHz for UHF channel 83*. In view of that, the local oscillator frequency is always within the range of either VHF or UHF and is also recited in Response to Arguments.

Furthermore, the 45.75 MHz picture IF frequency corresponds to the claimed predetermined intermediate frequency. The keyboard switch selection 13 and the keyboard memory and lock 14 correspond to the claimed source of signal; see also

figure 1. The phase frequency comparator 40 and gated offset oscillators 20, 21, 23 and 25, coupled to the VHF tuner VCO 10 and UHF tuner VCO 11, constitutes the claimed frequency controller. In column 4 lines 50-68, Albertrack further teaches that the phase-frequency comparator circuit 40 produces an error or control voltage that is amplified by a suitable amplifier 43, the output of which comprises the local oscillator control voltage which is applied over a lead 44 in common to the voltage controlled oscillators in both the VHF and UHF tuners 11.

Regarding claim 11, claim 11 is rejected on the same ground as for claim 10 because of similar scope. Furthermore, the VHF tuner VCO 10 and UHF tuner VCO 11 inherently include mixers for downconverting the RF received signal to the predetermined 45.75 MHz picture IF frequency.

Regarding claim 13, claim 13 is rejected on the same ground as for claim 11 because of similar scope. Furthermore, the claimed range is within UHF frequency range.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Alberkrack U.S. Patent 3,883,807 (previously cited).

Regarding claim 12, Alberkrack does not explicitly teach the local oscillator further includes a phase locked loop as claimed in the application claim.

However, in column 3 lines 10-25, Alberkrack further teaches that the system shown in FIG. 1 is a phase-locked loop control system for establishing and maintaining the frequency of the selected VHF or UHF voltage controlled tuner local oscillator which is operative to tune the receiver for the selected channel. Because of the foregoing teachings, one of ordinary skill in the art would have recognized that the VHF tuner VCO 10 and UHF tuner VCO 11 would be modified to include a phase-locked loop as suggested in Alberkrack invention.

6. Claims 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alberkrack U.S. Patent 3,883,807 (previously cited) as applied to claim 11 and further in view of Kuo et al. U.S. Patent 5,307,515 (previously cited).

Regarding claim 14, claim 14 is rejected on the same ground as for claim 11 because of similar scope. Alberkrack does not teach the frequency controller further comprises a microprocessor as claimed.

Kuo et al. invention is directed to a radio receiver with less susceptibility to adjacent channel interference. In figure 1, column 2 line 64 via column 3 line 10, a conventional receiver includes an antenna 10 connected to a radio frequency (RF) amplifier 11. An RF signal is output from RF amplifier 11 and mixed in a mixer 12 with a

mixing signal f_O from a phase-locked loop local oscillator 13. The frequency of mixing signal f_O is controlled by *a microcontroller 14, in response to an external tuning input*, and frequency-shifts a desired RF signal from RF amplifier 11 to the intermediate frequency (IF) of the receiver. Alberkrack and Kuo et al. inventions are in the same field of endeavor. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention that Alberkrack receiver can be modified to implement a microcontroller for frequency control as taught by Kuo et al.. Motivation is that the microcontroller provides speed and more accuracy.

Allowable Subject Matter

7. Claims 1-7 and 9 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 1-3 and 9, claims are allowed because allowable over prior art of record because the cited reference cannot teach or suggest the claimed limitations "*comparing the desired frequency of a desired received signal to a threshold frequency within a predetermined frequency range of reception frequencies*".

8. Claim 8 is allowed.

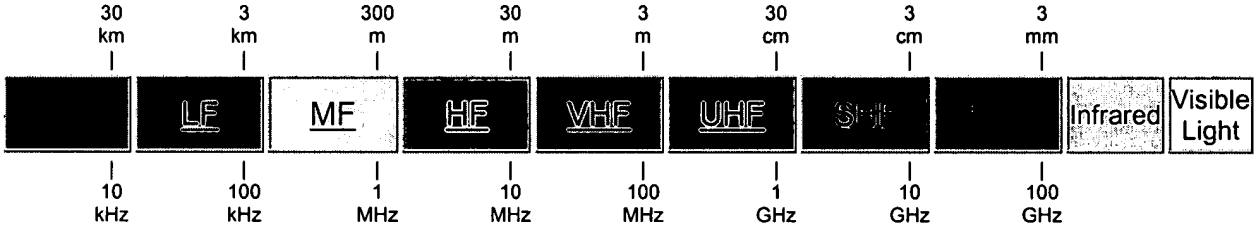
The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 8, claim 8 is allowable over prior art of record because the cited reference cannot teach or suggest the claimed limitations "*comparing the frequency of a desired received signal to a threshold frequency*" and "*wherein the range of frequencies is bounded by high and low frequencies as set forth in the application claim*".

14. Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Allocation of Radio Spectrum

in the United States



This is the table of contents to a list showing how the radio frequency spectrum is allocated to different users in the United States.
The numbers in brackets "[xx.xx]" refer to a F.C.C. rule section allocating the frequency.

Table of Contents: Frequency	Band
10 kHz to 30 kHz	Very Low Frequency (VLF)
30 kHz to 300 kHz	Low Frequency (LF)

300 kHz to 3 MHz	Medium Frequency (MF)
3 MHz to 30 MHz	High Frequency (HF)
30 MHz to 144 MHz 144 MHz to 174 MHz 174 MHz to 328.6 MHz	Very High Frequency (VHF)
328.6 MHz to 450 MHz 450 MHz to 470 MHz 470 MHz to 806 MHz 806 MHz to 960 MHz 960 MHz to 2.3 GHz 2.3 GHz to 2.9 GHz	Ultra High Frequency (UHF)
2.9 GHz to 30 GHz	Super High Frequency (SHF)
30 GHz and above	Extremely High Frequency (EHF)
Other charts of the radio spectrum	
Cable TV channel frequencies	
Letter designations of microwave bands	
Satellite to L-band conversion	
Frequency coordination	
Other communications resources on the net	

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 571-272-3007. The examiner can normally be reached on Monday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KCT

Khanh Cong Tran 07/07/2006

Primary Examiner KHANH TRAN